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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

James Buczala
Woodward-Clyde Consultants
1400 Union Meeting Road, Suite 202
Blue Bell, Pennsylvania 19422

November 28, 1995

Re: Approval of Phase II RI Scope of Work
Koppers Company, Inc. Site

Dear Mr. Buczala:

The U.S. Environmental Protection Agency (EPA) has reviewed the Woodward-Clyde Consultant (WWC) submittal dated October 4, 1995 which provided additional data tables, a map showing Phase I sampling locations, and responses to EPA comments (September 13, 1995) on the Revised Phase II Remedial Investigation (RI) Scope of Work (SOW) dated August 18, 1995. The following comments are based on that review and our November 16, 1995 meeting.

EPA used the data tables to plot exceedances of ecological benchmarks on a series of maps. Although, as you stated, this effort was not "quick or cheap", it was necessary to obtain a more thorough understanding of the Phase I data results. Based on our review of the Phase I data, EPA does not concur with some of the conclusions drawn in the Phase II RI SOW (August 18, 1995) regarding the Phase I data. Specifically, for reasons detailed in previous EPA letters to WWC, EPA is concerned with the procedure described in Section 3.1 Evaluation of Constituents of the subject document which was used to identify "ecologically-related constituents". It follows that EPA is also concerned with the conclusions that WWC has made regarding Contaminants of Concern (COCs) and Areas of Potential Ecological Concern (APECs).

However, as we discussed during our November 16, 1995 meeting, agreement on these issues need not hold up forward movement of the Phase II RI field work (i.e. the Phase I, II and III data should be adequate to perform the ecological and human health risk assessments and feasibility study). It less clear that the Phase I, II and III sampling locations will provide adequate data to determine extent of contamination and any potential hot spots. However, that information can be obtained during the Remedial Design Phase of the project.

Therefore, EPA approves the Phase II RI SOW (August 18, 1995) with the following modifications:

1. EPA does not agree with conclusions drawn regarding COCs and APECs for the reasons stated below and in previous letters to

WWC. At this time, EPA views the entire site as an Area of Potential Ecological Concern with PAH, trace metals, dioxin/furans, pesticides and PCBs as Potential Contaminants of Concern. Furthermore, EPA believes that APECs and COCs will be further focussed during the risk assessments and Phase III biological sampling effort and that it is premature to eliminate COCs and APECs at this time.

- WCC has stated that "the general distribution pattern of site-related constituents (PAHs) typically shows higher concentrations in upstream areas and a pattern of decreasing concentration moving downstream. The distribution pattern of other analyte groups such as metals is generally opposite, with higher concentrations in the drainageways, and lower concentrations in upgradient areas. The zinc concentration of 8,800 mg/kg in Hershey Run is one example; zinc concentrations in the two samples collected in the Fire Pond are only 129 mg/kg and 187 mg/kg. Other metals show similar distributional patterns."

A review of the data provided in Attachment E, did not always demonstrate these patterns. For instance, a zinc concentration of 1520 mg/kg was reported from a surface sediment sample at FP-2 at the Fire Pond. Also, the zinc concentration of 8,800 mg/kg in Hershey Run mentioned in WCC's response was detected at HR-2, the second furthest upgradient sampling location in Hershey Run.

In addition, the following data do not support WCC's analysis of the general distribution pattern of trace element contamination at the site, but instead support the recommendation that all Phase II sampling include analysis for trace elements:

- Detected above their respective ER-L screening guidelines at FP-2 were cadmium at 2.2 mg/kg, copper at 109 mg/kg, lead at 133 mg/kg, and mercury at 0.75 mg/kg.

- At the South Pond (SP-1 and SP-2), arsenic (9.8 mg/kg), cadmium (3.2 mg/kg), copper (153 mg/kg), lead (127 mg/kg), mercury (8.8 mg/kg), and zinc (475 mg/kg) were detected at concentrations above their respective ER-L screening guidelines.

- In the East Central Drainage Area, the highest concentrations of trace elements were detected at EC-7, upgradient of most of the other sediment stations in the area, as follows: arsenic (24.9 mg/kg), cadmium (6.3 mg/kg), chromium (90.8 mg/kg), copper (157 mg/kg), lead (150 mg/kg), mercury (0.29 mg/kg), nickel (36.8), and zinc (1,970 mg/kg).

- In Hershey Run, the highest concentrations of trace elements in sediment were generally found at HR-2, an upgradient station near the Fire Pond. At HR-2, the following trace elements were detected above the respective ER-L screening guideline: arsenic (10.9 mg/kg), cadmium (14.3 mg/kg), chromium (108 mg/kg), copper (179 mg/kg), lead (195 mg/kg),

mercury (0.86 mg/kg), nickel (27.9 mg/kg), and zinc (8,770 mg/kg).

- DDT was detected at 130 ug/kg, substantially above its ER-L of 1.58 ug/kg at station KP-1 at the Area K pond. DDT was also detected at 1,200 ug/kg at the South Pond, and at 140 ug/kg at WCM-1 in the West Central Drainage Area. DDE was detected at 305 ug/kg at E-1 in the East Drainage Area.

- PCBs were detected well above the ER-L screening guideline for total PCBs (22.7 ug/kg) at the East Drainage Area (210 ug/kg at E-1); at the East Central Drainage Area (748 ug/kg at EC-7); at the West Central Drainage Area (252 ug/kg at WCM-5); at the Fire Pond (2,320 ug/kg at FP-2); in Hershey Run (320 ug/kg at HR-0); and in White Clay Creek (468 ug/kg at WH-1).

- Also, the detection limits for PCBs and pesticides in sediments presented in Attachment E were above ER-L screening guidelines in almost every result presented. The EPA letter dated September 13 stated that "Detection limits need to be equal to or even lower than ecologically sensitive criteria if possible."

- The PCDD/PCDF detection summary for sediments in Attachment E, as well as Figure A-41, reveal on-site detections of dioxins and furans at a number of locations throughout the site, but these detections are not compared to background sediment concentrations.

2. EPA requests the addition of approximately 10 samples to the already proposed Phase II sampling locations (see attached map). These surface water/sediment samples should be analyzed for PAHs, metals, pesticides/PCBs and dioxins/furans. As we have discussed, the number and locations of samples collected in the Christina River will be based on a review of the DuPont-Newport Christina River data. WWC will submit a separate deliverable to show the Christina River sample locations. EPA requests that a minimum of 4 samples be placed in the Christina River.

3. Metals data should be collected at all Phase II sampling locations slated for laboratory analysis. WWC has requested that EPA consider allowing analysis of a subset of the metals. EPA has considered this request. For purposes of the Phase II sampling effort, EPA will agree to a limited subset of metals analysis which includes chromium, copper, arsenic, zinc, lead, mercury, cadmium and nickel. However, if warranted in the future, analysis of the remaining metals may be appropriate.

4. The schedule detailed in the August 18, 1995 SOW must obviously be changed since some of the dates have already passed. Beyond the scheduling of the Phase III RI work, which is discussed later on in this document, EPA has no specific comments on the schedule. However, as we have discussed, I would like to meet with you to discuss the schedule in some detail at your

earliest convenience. This meeting would serve to provide some clarification to EPA on the manner in which tasks have been arranged and linked to one another.

5. Specific comments on the October 4, 1995 submittal are attached to this letter.

As discussed within WWC's October 4, 1995 submittal and this letter, there are a few revisions that should be made to the August 18, 1995 SOW. Since the required revisions are limited, EPA believes that these changes can be handled through a separate submittal of the revised pertinent pages to the SOW. EPA looks forward to receiving these revised pages on or before December 12, 1995. Please be advised that upon your receipt of this letter, the Phase II RI SOW is considered approved. Therefore, the submittal of revised pages to the SOW should not hold up initiation of the Phase II RI field work which should progress in the near future.

As always, please call with any questions or comments.

Sincerely,

Lisa M. Marino

Lisa M. Marino, RPM
General Remedial Section

Attachments

cc:
J. Patarcity, Beazer
J. Karmazyn, DuPont
B. Okorn, EPA
B. Pasquini, EPA
J. Hubbard, EPA
M. Sprenger, EPA
P. Knight, NOAA
C. Guy, FWS
M. Zhang, DNREC
J. Brzezenski, ACOE

Specific Comments on the October 4, 1995 submittal are as follows:

Data Screening

This response states that the data screening approach was described in the EPA-approved Phase I Work Plan (WP). EPA disagrees. The "Decision Criteria" section of the Phase I WP describes a multi-component criteria based on AWQCs, LOELs, proposed sediment criteria, TVGs, ER-Ls, regional clean reference station data, site specific control data, and literature information. The Phase I WP does not specifically describe the five step data screening approach as was utilized to identify ecologically-related constituents of concern.

This response also states that the approach and level of effort utilized in the Phase II RI SOW was sufficient to define which areas and analytes require additional Phase II data collection. However, as stated previously, EPA feels that October 4, 1995 submittal which screened the Phase I data against ecological benchmarks and the additional effort expended by EPA to map the data was necessary to gain an understanding of the Phase I data.

As an aside, there are a number of ecological benchmarks missing from the "D" tables in the response document. A greater effort should be made in the future to find ecological benchmarks for contaminants that were detected at the site.

Responses to comments on the August 2, 1995 letter:

Comments have been adequately addressed within the October 4, 1995 submittal unless indicated below.

1. This response states "The laboratory selected to perform analytical work for the Phase I investigation agreed to analyze a NAPL sample. However, a different laboratory may be selected to perform this work for the Phase II investigation." EPA is unclear as to why a different laboratory would be chosen if the laboratory used during Phase I has performed analysis of NAPL in the past. In addition, as you know, if a new laboratory is selected, its qualifications need to be submitted.

7. As we discussed during our November 16, 1995 meeting, EPA is requesting that the Phase III scoping effort be started sooner than is outlined in proposed project schedule (August 18, 1995). EPA feels that scoping of Phase III (biological sampling) can begin after your review of the EPA Screening Level Ecological Risk Assessment which is scheduled to be submitted to you in January 1996. This would place the start date for the scoping of the Phase III effort in February 1996 which is actually the same start date as outlined in the proposed schedule. The difference

is that the start date would no longer be tied to the completion of the Marsh/Drainageway Sampling and Analysis tasks. EPA believes that the information obtained during the Marsh/Drainageway Sampling and Analysis task can be incorporated into the Phase III effort when it is received; however, this should not hold up movement on the scoping of Phase III.

We agree that issues such as the use of *Hyalella azteca* can be discussed during the Phase III scoping effort. EPA recommends that we participate in at least one scoping meeting prior to submission of any Phase III Work Plan. Scoping meetings will hopefully reduce the work plan review time and the requirement for multiple resubmissions.

8. See comment #7.

9. The response to this comment refers to six near-Site Christina River stations to be sampled downstream of the Site drainage ways. However, during our November 16, 1995 meeting, EPA discussed the addition of four Christina River stations. This confusion probably stemmed from the fact that the six river station sample locations were not depicted on any Phase II map. Nonetheless, as we have discussed, WWC will submit a separate deliverable to depict the locations of these samples based on a review of the DuPont-Newport data. The actual number and location of these samples will be decided after that review. However, EPA requests a minimum of 4 sample locations.

Responses to comments on the Revised RI SOW (August 18, 1995):

EPA comments on the Revised RI SOW have been adequately addressed unless indicated below.

3. EPA has reviewed the ground water elevation data which we received on November 22, 1995. Based on this review, we agree that MW-28 appears to represent background ground water quality in the area of the site. However, this review also revealed that additional ground water elevation data is required to obtain a better understanding of ground water flow from the site. Therefore, EPA requests a minimum of two additional rounds of ground water elevation data from all monitoring wells on-site and the DuPont Holly Run Plant wells (MW-27, MW-28, MW-29, MW-36 and MW-37).

5. See response to comment #3.

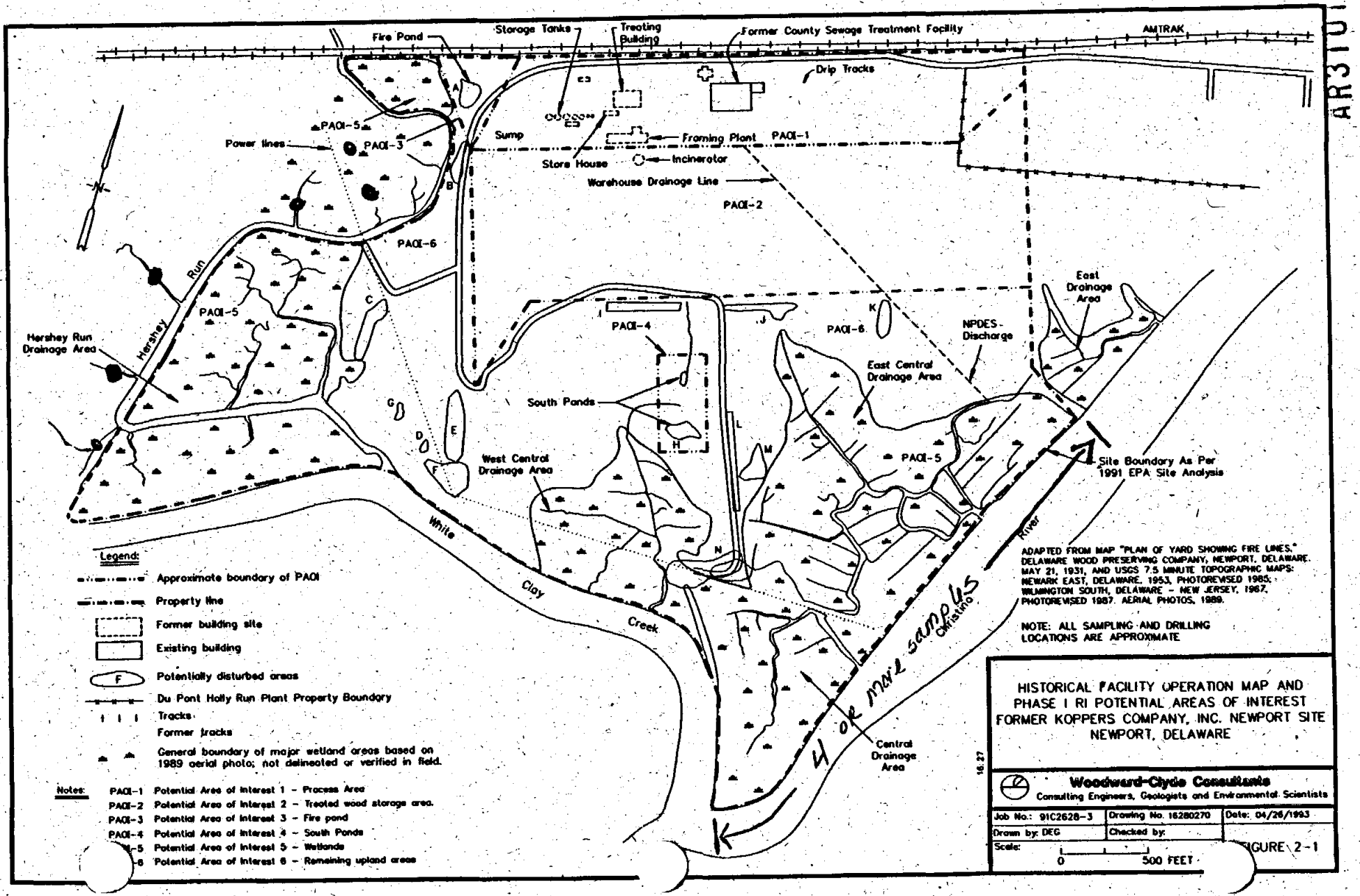
11. See response to comment #9 in the previous section.

18. See response to comment #7 in the previous section.

20. As we discussed during our November 16, 1995 meeting and during our subsequent telephone conversation, EPA is still requesting that metals data be obtained for each of the Phase II sampling locations slated for laboratory analysis.

Also, based on our discussions, at this time, EPA feels that the existing PCB/pesticide data is adequate for purposes of the risk assessments. Therefore, additional PCB/pesticide data need not be collected at this time but may be required in the future.

Please note that this comment pertains only to on-site sediment and soil samples (i.e. ground water samples, off-site sediment/surface water samples, etc. should be analyzed for all contaminants as detailed in the SOW and subsequent letters).


Fire Pond
Storage Tanks
Treating Building
Former County Sewage Treatment Facility
AMTRAK
Drip Tracks
PAOI-5
PAOI-3
Power lines
Sump
Framing Plant
PAOI-1
Incinerator
Store House
Warehouse Drainage Line
PAOI-2
PAOI-6
Hershey Run
Hershey Run Drainage Area
PAOI-5
PAOI-4
PAOI-6
East Drainage Area
NPDES-Discharge
East Central Drainage Area
South Ponds
West Central Drainage Area
PAOI-5
Site Boundary As Per 1991 EPA Site Analysis
White Clay Creek
Delaware River
4 or more samples
Central Drainage Area
Legend:
Approximate boundary of PAOI
Property line
Former building site
Existing building
Potentially disturbed areas
Du Pont Holly Run Plant Property Boundary
Tracks
Former tracks
General boundary of major wetland areas based on 1989 aerial photo; not delineated or verified in field.
Notes:
PAOI-1 Potential Area of Interest 1 - Process Area
PAOI-2 Potential Area of Interest 2 - Treated wood storage area.
PAOI-3 Potential Area of Interest 3 - Fire pond
PAOI-4 Potential Area of Interest 4 - South Ponds
PAOI-5 Potential Area of Interest 5 - Wetlands
PAOI-6 Potential Area of Interest 6 - Remaining upland areas
ADAPTED FROM MAP "PLAN OF YARD SHOWING FIRE LINES," DELAWARE WOOD PRESERVING COMPANY, NEWPORT, DELAWARE. MAY 21, 1931, AND USGS 7.5 MINUTE TOPOGRAPHIC MAPS: NEWARK EAST, DELAWARE, 1953, PHOTOREVISED 1985; WILMINGTON SOUTH, DELAWARE - NEW JERSEY, 1967, PHOTOREVISED 1987. AERIAL PHOTOS, 1989.
NOTE: ALL SAMPLING AND DRILLING LOCATIONS ARE APPROXIMATE
HISTORICAL FACILITY OPERATION MAP AND PHASE I RI POTENTIAL AREAS OF INTEREST
FORMER KOPPERS COMPANY, INC. NEWPORT SITE
NEWPORT, DELAWARE
Woodward-Clyde Consultants
Consulting Engineers, Geologists and Environmental Scientists
Job No.: 91C2628-3
Drawing No. 16280270
Date: 04/26/1993
Drawn by: DEG
Checked by:
Scale:
0
500 FEET
FIGURE 2-1